



MAT-8117US

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: M. Hoasi et al.

: Art Unit: 2821

Serial No.: 09/820,077

: Examiner:

Filed: March 28, 2001

:

FOR: DIVERSITY WIRELESS DEVICE

:

AND WIRELESS TERMINAL UNIT

:

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents

Washington, D.C. 20231

S I R :

Prior to examination, please amend the above-identified application as follows.

IN THE CLAIMS:

Please replace claim 1 with the following amended claim:

- 1 1. (As Amended) A diversity wireless device for providing diversity using a
- 2 plurality of antennas comprising:
- 3 a substrate;
- 4 at least one grounded antenna disposed on said substrate;
- 5 at least one ungrounded antenna disposed on said substrate and isolated
- 6 from said grounded antenna, whereby said grounded antenna and said ungrounded
- 7 antenna provide a diversity gain relative to signals received by said diversity
- 8 wireless device.

IN THE ABSTRACT:

Please replace the Abstract with the new Abstract attached hereto.

REMARKS

By this amendment, applicants have amended claim 1 and the abstract. It is applicants' contention that amended claim 1 and the abstract more clearly define and describe applicants' claimed invention. No new matter is added by the amendment to claim 1 and the abstract, because the amendments thereto are based on the application as originally filed.

Early consideration and allowance of all pending claims are respectfully requested.

Respectfully Submitted,

Daniel N. Calder

Lawrence E. Ashery, Reg. No. 34,515
Daniel N. Calder, Reg. No. 27,424
Attorneys for Applicants

DNC/lm/jam

Enclosure: Version With Markings Showing Changes Made
Amended Abstract

Dated: July 9, 2001

Suite 301
One Westlakes, Berwyn
P.O. Box 980
Valley Forge, PA 19482-0980
(610) 407-0700

The Assistant Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. 18-0350 of any fees associated with this communication.

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7/09/01

Daniel N. Calder

ABSTRACT

5 A diversity wireless device for use in a wireless terminal unit includes at least one grounded antenna and at least one ungrounded antenna in proximity to each other on a circuit board. By providing at least one ungrounded antenna and at least one grounded antenna, there is a low correlation between the antennas resulting in a high diversity gain. The high diversity gain as a result of these antennas is maintained even with downsizing of the diversity wireless device.

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VERSION WITH MARKINGS SHOWING CHANGES MADECLAIMS:

1. (As Amended) A diversity wireless device for providing diversity using a plurality of antennas comprising:

a substrate;

at least one grounded antenna disposed on said substrate;

at least one ungrounded antenna disposed on said substrate and isolated from said grounded antenna, whereby said grounded antenna and said ungrounded antenna provide a diversity gain relative to signals received by said diversity wireless device.

~~an antenna which is grounded (grounded antenna) and~~

~~an antenna which is not grounded (ungrounded antenna).~~

ABSTRACT:

~~The present invention aims to provide a diversity wireless device that can be downsized without reduction in diversity gains. Provision of at least one ungrounded antenna among a plurality of antennas in the device makes a lower correlation between the antennas, thus giving a high diversity gain.~~ A diversity wireless device for use in a wireless terminal unit includes at least one grounded antenna and at least one ungrounded antenna in proximity to each other on a circuit board. By providing at least one ungrounded antenna and at least one grounded antenna, there is a low correlation between the antennas resulting in a high diversity gain. The high diversity gain as a result of these antennas is maintained even with downsizing of the diversity wireless device.